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EXAMINER

CHENG, PETER L

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

### Application No.

10/677,282

### Applicant(s)

OKUDA ET AL.

### Examiner

Peter L. Cheng

### Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6 and 12 is/are rejected.
- 7) ☒ Claim(s) 1-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/3/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because:
  - **Fig. 2(c)**: per the original specification, **page 10, lines 22 – 25**, since Dp0 is the same as Di0, this implies that the current value **50** in column **B** and row **d** should be **150**;

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

- **page 3, 2<sup>nd</sup> paragraph, lines 3 - 5** (of the "*Amendments to the Specification*"): concerning the replacement of the *original paragraph* beginning on **page 6, line 19**, suggest using common terminology; therefore, suggest replacing

"The receiver 2 outputs frame data Di1 corresponding to one of frames (hereinafter also referred to as image) included in the image signal to the **image data correction device 3.**"

with

"The receiver 2 outputs frame data Di1 corresponding to one of frames (hereinafter also referred to as image) included in the image signal to the **image [[data]] correction device 3.**";

- **page 5, 1<sup>st</sup> paragraph, lines 6 - 9** (of the "*Amendments to the Specification*"):  
concerning the replacement of the *original paragraph* beginning on **page 11, line 24**, therefore, suggest replacing

"The correction data output device 30 outputs correction data Dm1 to **a** adder 15 on the basis of the mentioned object frame data Di1, the mentioned previous frame reproduction image data Dp0, and the mentioned change quantity Dv1."

with

"The correction data output device 30 outputs correction data Dm1 to **an** adder 15 on the basis of the mentioned object frame data Di1, the mentioned previous frame reproduction image data Dp0, and the mentioned change quantity Dv1.";

- **Page 18, line 18** (of the original specification): it is assumed that applicant intended to cite **foregoing object frame** instead of **foregoing subject frame**;

Appropriate correction is required.

### ***Claim Objections***

3. Claims 1 – 7 and 16 are objected to because of the following informalities:
  - **Line 1:** since the description (e.g., original specification, **page 11, line 27**) refers to a “correction data output device” **30** as being a part of the “frame data correction device” **10**, and the “frame data correction device” **10** is a part of the “image correction device” **3** (as now shown in **Fig. 1**), for clarity, suggest replacing **A correction data output device comprising** with **An image correction [[data output]] device comprising**;
4. Claim 1 is objected to because of the following informalities:
  - **Line 2:** per the original specification, **page 7, line 9**, to overcome a lack of antecedent basis for **the encoded object frame data** (lines 3 - 4), suggest replacing **an encoder which encodes *inputted object frame data* with an encoder which encodes *inputted object frame data*, and produces an encoded object frame data**;
  - **Line 3:** as noted for line 2, **the encoded object frame data** (lines 3 - 4) lacks antecedent basis; this can be remedied per the suggestion noted above;

- **Line 9:** since the “first decoder” decodes “the encoded object frame data” (claim 1, lines 5 - 6), the term **said object encoded data** does not appear correct; one would expect a term, like, **a decoded object frame data**;  
  
suggest replacing **said object encoded data** from said first decoder with **[[said object encoded data]] a decoded object frame data** from said first decoder;
- **Line 10:** similarly, suggest replacing **previous frame data** from said second decoder with **[[previous frame data]] a decoded previous frame data** from said second decoder;
- **Lines 11 - 13:** these lines appear to be “misplaced” with respect to a **data correction device (line 9)** which receives data from the “first decoder” and “second decoder”;  
  
per the original specification, **page 4, lines 7 – 12**, a **correction data output device (Fig. 4 block #30)** outputs correction data that “*corrects object frame data included in an inputted image signal on the basis of the mentioned object frame data and previous frame data*”, as shown in **Fig. 4**, the **correction data output device** is part of the **frame data correction device**; the **frame data correction device** is shown in **Fig. 1** as block #10;

since the original specification only mentions a **frame data correction device** (i.e., there's no other "data correction device"), it would appear that applicant is defining a **data correction device (line 9)** as a combination of **change-quantity calculating device (Fig. 1 block #8)**, **previous frame image reproducer (Fig. 1 block #9)**, and **frame data correction device (Fig. 1 block #10)**;

- **Lines 11 - 12:** it is not clear whether **object frame data** refers to **inputted object frame data (line 2)**, or **encoded object frame data (line 3)**; it is assumed applicant intended to cite **corrects inputted object frame data included in an inputted image signal** instead of **corrects *object frame data* included in an inputted image signal**;
- **Line 12:** suggest replacing **the basis** with **a basis**;
- **Lines 12 - 13:** as with **line 11**, suggest replacing **said object frame data** with **said inputted object frame data**;
- **Line 13:** it is not clear whether **previous frame data (line 13)** refers to **encoded previous frame data (line 4)** or **previous frame data from said second decoder (line 10)**; as noted above, since **lines 11 – 13** appear to be



directed to a **correction data output device**, it will be assumed that **previous frame data** refers to a previous frame data; that is, it refers to neither **encoded previous frame data** nor **previous frame data from said second decoder**;

- **Line 14:** per the original specification, **page 5, line 13**, the description for **Fig. 9** cites a "graph showing an example of **correction image data**"; however, the **correction image data** shown in **Fig. 9** corresponds to **Dj2** from lookup table, **LUT 12**, shown in **Fig. 4**;

furthermore, **line 16** cites, "a previous frame image producer that receives said correction image data and said object frame data"; as shown in **Fig. 1**, a **previous frame image reproducer** (block #9) receives a **change quantity (Dv1)** and **inputted object frame data (Di1)**;

therefore, to prevent confusion with **correction image data** (i.e., **Dj2**), and for clarity, suggest replacing **outputs a correction image data** with **outputs a [[correction image data]] change quantity**;

- **Line 15:** for reasons given above, and per the original specification, **page 8, lines 14 – 16**, suggest changing **subtracting said object frame data from said previous frame data** with **subtracting [[said object frame data]] said**

**decoded object frame data from [[said previous frame data]] said  
decoded previous frame data;**

- **Line 16:** since the original specification defined a **previous frame image reproducer**, suggest replacing a **previous frame image producer** with a **previous frame image reproducer**;
- **Lines 16 - 18:** since the original specification mentioned a **previous frame reproduction image data** instead of **previous frame reproduction data**, and for reasons noted above, suggest replacing **that receives said correction image data and said object frame data and adds the correction image data to said object frame data producing previous frame reproduction data** with **that receives [[said correction image data]] said change quantity and said inputted object frame data and adds [[the correction image data]] the change quantity to said inputted object frame data producing previous frame reproduction image data;**
- **Lines 23 - 25:** for similar reasons, suggest replacing a **frame data correction device that outputs corrected object frame data based on object frame data, correction image data and frame reproduction data** with a **frame data correction device that outputs corrected object frame**

data based on said inputted object frame data, [[correction image data]]  
said change quantity and said previous frame reproduction image data;

5. Claim 2 is objected to because of the following informalities:

- **Lines 2 - 4:** it is not clear whether the data correction device (line 2) refers to a data correction device (claim 1, line 9) or a frame data correction device (claim 1, line 23); it is assumed that applicant intended to cite the frame data correction device; in addition, it is assumed that applicant intended to remove the word means (line 3);

for these and reasons previously mentioned, suggest replacing wherein *the data correction device comprises bit number converting device means that reduces number of bits of the object frame data or number of bits of the previous frame data* with wherein *the frame data correction device comprises a bit number converting device [[means]] that reduces a number of bits of the inputted object frame data or a number of bits of the previous frame reproduction image data;*

6. Claim 3 is objected to because of the following informalities:

- **Lines 2 - 4:** per the suggestions noted for claim 1, lines 14 – 15, suggest replacing a change quantity output device for outputting *change quantity between the object frame data and the previous frame data* with a

change quantity output device for outputting said change quantity  
between *the decoded object frame data* and *the decoded previous frame*  
*data*;

- **Lines 6 - 8:** it is not clear whether the **correction data** refers to **correction image data** (claim 1, line 9), or **corrected object frame data** (claim 1, line 23); however, as noted for **claim 1, line 14**, it is assumed here that applicant is referring to the **correction image data** shown in **Fig. 9** which is outputted from a lookup table (**Fig. 4 LUT 12**) and then corrected by a **correction data controller** (**Fig. 4 block #14**); both **LUT 12** and **correction data controller 14** are contained within a **frame data correction device** (**Fig. 4**);

assuming that applicant revises claim 1 so that it no longer refers to a **correction image data** (lines 14, 16, 17, 24), suggest replacing *the correction data outputted from the data correction device on the basis of said change quantity outputted from said change quantity outputting device* with *[[the]] a correction image data [[outputted from the data correction device]] and outputs a corrected correction image data on [[the]] a basis of said change quantity outputted from said change quantity outputting device*;

7. Claim 4 is objected to because of the following informalities:

- **Lines 2 - 5:** with reference to **Fig. 9**, and for reasons given above, suggest replacing wherein *the data correction device* has a data table composed of *correction data*, and *said correction data* are outputted from said data table on *the* basis of *said object frame data* and *said previous frame data* with wherein *the frame data correction device* has a data table composed of *correction image data*, and *said correction image data* are outputted from said data table on *[[the]] a* basis of *said inputted object frame data* and *said previous frame reproduction image data*;

8. Claim 5 is objected to because of the following informalities:

- **Lines 2 - 4:** it is assumed applicant intended to cite *the frame data correction device* (line 2) instead of *the data correction device*; also, it is not clear whether *the object frame* (line 4) refers to the “data” (e.g., *inputted object frame data* in claim 1, line 2, or *encoded object frame data* in claim 1, line 3, or *object frame data* in claim 1, lines 11 – 12), or just the “frame”; *examiner will interpret* the object frame as an *inputted object frame*; if applicant concurs, suggest replacing wherein *the data correction device* outputs *correction data* for correcting data that correspond to *number* of gradations of *the object frame* with wherein *the frame data correction device* outputs *correction data* for correcting data that correspond to *a* *number* of gradations of *[[the object frame]] an inputted object frame*;

9. Claim 6 is objected to because of the following informalities:

- **Lines 2 - 4:** as with claim 3, it is not clear whether **the correction data** (lines 2 - 3) refers to **correction image data** (claim 1, line 9), or **corrected object frame data** (claim 1, line 23); however, as noted for **claim 1, line 14**, it is assumed here that applicant is referring to the **correction image data** shown in **Fig. 9** which is outputted from a lookup table (**Fig. 4 LUT 12**) and then corrected by a **correction data controller** (**Fig. 4 block #14**); both **LUT 12** and **correction data controller 14** are contained within a **frame data correction device** (**Fig. 4**);

as with claim 3, assuming that applicant revises claim 1 so that it no longer refers to a **correction image data** (lines 14, 16, 17, 24), suggest replacing **wherein the data correction device corrects the correction data outputted from the correction data outputting means** thereby increasing or decreasing **said correction data** with **wherein the frame data correction device corrects [[the]] a correction image data [[outputted from the correction data outputting means]] and outputs a corrected correction image data thereby increasing or decreasing **said correction image data**;**

10. Claim 7 is objected to because of the following informalities:

- **Lines 2 - 3:** for reasons given above, it is assumed that applicant intended to cite the inputted object frame data instead of the object frame data;

11. Claims 12, 13 and 17 are objected to because of the following informalities:

- **Line 1:** if applicant concurs with the suggestion regarding **line 1** of claims 1 – 7 and 16, suggest replacing **A correction data correcting method** with **An image [[correction data]] correcting method**;

12. Claim 12 is objected to because of the following informalities:

- **Line 3:** to overcome antecedent basis issues regarding **said encoder** (in line 7) and **the encoded object frame data** (in line 4), suggest replacing **encoding inputted object frame data** with **encoding inputted object frame data by an encoder and producing encoded object frame data**;
- **Line 4:** to overcome an antecedent basis issue regarding **said delay device** (in line 9), suggest replacing **delaying the encoded object frame data by one frame** with **delaying the encoded object frame data by one frame using a delay device**;
- **Line 7:** as noted for line 3, **said encoder** lacks antecedent basis;
- **Line 7:** suggest replacing **said encoder and;** with **said encoder<sub>1</sub> and[[:]]**;

- **Line 9:** as noted for **line 4**, **said delay device** lacks antecedent basis;
- **Line 9:** suggest replacing **said delay device and;** with **said delay device;**  
**and[[:]]**;
- **Line 10:** unlike **claim 1, line 14**, it is assumed here that **correction image data** refers to data **Dj2** shown in **Fig. 9**;

it should also be noted that the amended claim does not indicate the removal of the words **for correcting** that were in the original claim; "for correcting" has been replaced with **that corrects**;

- **Line 10 - 12:** it is assumed that **object frame data (line 10)** and **said object frame data (line 11)** refer to **inputted object frame data (line 3)**;

also, it is not clear whether **previous frame data (lines 11 - 12)** refers to **encoded previous frame data (line 5)**; as noted with **claim 1, lines 11 – 13**, it will be assumed that **previous frame data** refers to a **previous frame data**;

therefore, **lines 10 – 12** will be interpreted as **outputting correction image data that corrects said inputted object frame data included in an**



inputted image signal on ~~[[the]]~~ a basis of said inputted object frame data and a previous frame data *instead of* outputting correction image data that corrects object frame data included in an inputted image signal on the basis of said object frame data and previous frame data;

- Lines 13 - 14: as with claim 1, lines 9 – 10, suggest replacing that receives *said object encoded data* from said first decoder and *previous frame data* from said second decoder with that receives ~~[[said object encoded data]]~~ a decoded object frame data from said first decoder and ~~[[previous frame data]]~~ a decoded previous frame data from said second decoder;
- Lines 14 - 16: as with claim 1, lines 14 – 16, suggest replacing outputs a *correction image data* derived from subtracting *said object frame data* from *said previous frame data* with outputs a ~~[[correction image data]]~~ change quantity derived from subtracting ~~[[said object frame data]]~~ said decoded object frame data from ~~[[said previous frame data]]~~ said decoded previous frame data;
- Lines 17 - 18: as with claim 1, lines 16 – 18, suggest replacing producing *previous frame reproduction data* by a *previous frame image producer*

with producing *previous frame reproduction image data* by a *previous frame image reproducer*,

- Lines 18 - 19: as with claim 1, lines 16 – 18, suggest replacing that receives *said correction image data* and *said object frame data* and adds *the correction image data* to *said object frame data* with that receives *[[said correction image data]] said change quantity* and *said inputted object frame data* and adds *[[the correction image data]] the change quantity* to *said inputted object frame data*;
  - Lines 22 - 24: as with claim 1, lines 23 – 25, suggest replacing **outputting** corrected object frame data by a frame data correction device based on *object frame data, correction image data* and *frame reproduction data* with outputting corrected object frame data by a frame data correction device based on *said inputted object frame data, [[correction image data]] said change quantity* and *said previous frame reproduction image data*;
13. Claim 13 is objected to because of the following informalities:
- Lines 2 - 3: as with claim 3, suggest replacing **wherein** *change quantity* between *the object frame data* and *the previous frame data* is outputted

with wherein **said change quantity between the decoded object frame data and the decoded previous frame data** is outputted;

- **Line 4:** it is assumed that applicant intended to cite **a basis** instead of the **basis**;

14. Claim 14 is objected to because of the following informalities:

- **Lines 1 - 3:** suggest replacing **comprising the step of correcting said object frame data on the basis of the correction image data corrected by the correction data correcting method as defined in claim 12 with comprising [[the]] a step of correcting said inputted object frame data on [[the]] a basis of the correction image data corrected by the image [[correction data]] correcting method as defined in claim 12;**

15. Claim 15 is objected to because of the following informalities:

- **Line 1:** it is assumed that applicant intended to cite **a step** instead of the **step**;
- **Line 3:** it is assumed that applicant intended to cite **a basic** instead of the **basic**;

16. Claim 16 is objected to because of the following informalities:

- **Lines 4 - 5:** as noted for **claim 1**, suggest replacing **said object frame data** and **said frame reproduction data** with **said inputted object frame data** and **said previous frame reproduction image data**;
- **Line 6:** suggest replacing **said object frame data** with **said inputted object frame data**;
- **Lines 8 - 11:** it is assumed that a **correction controller** (line 8) refers to the **correction data controller** shown in **Fig. 4** as block **#14**; in addition, it is assumed that **said / the correction image data** (lines 8, 9 , 10 - 11) refers to **said / the change quantity**; therefore, suggest replacing **a *correction controller* that receives *said correction image data* and *said correction gradation data*, compares *said correction image data* against a threshold and modifies the correction gradation data based on whether *the correction image data* is greater, equal to or less than the threshold value with a *data* *correction controller* that receives *[[said correction image data]] said change quantity* and *said correction gradation data*, compares *[[said correction image data]] said change quantity* against a threshold and modifies the correction gradation data based on whether *[[the correction image data]] the change quantity* is greater, equal to or less than the threshold value**;

17. Claim 17 is objected to because of the following informalities:

- **Lines 3 - 4:** as noted for claim 12, suggest replacing **said object frame data** and **said frame reproduction data** with **said inputted object frame data** and **said previous frame reproduction image data**;
- **Line 5:** suggest replacing **said object frame data** with **said inputted object frame data**;
- **Lines 7 - 10:** it is assumed that **said / the correction image data** (lines 7 – 8, 9) refers to **said / the change quantity**; therefore, suggest replacing **modifying the correction gradation data by comparing *said correction image data* against a threshold and *modifies* the correction gradation data based on whether *the correction image data* is greater, equal to or less than the threshold value with modifying the correction gradation data by comparing **[[*said correction image data*]] *said change quantity* against a threshold and **[[*modifies*]] modifying the correction gradation data based on whether **[[*the correction image data*]] the change quantity is greater, equal to or less than the threshold value**;******

Appropriate correction is required.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. Claims 1, 2, 4 and 6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 4 of **U.S. Patent No. 7,034,788**. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim similar subject matter. The following table compares the above-cited claims:

INSTANT APPLICATION	US PATENT 7,034,788 B2
1. A correction data output device comprising:  <u>an encoder</u> which encodes inputted object frame data;	1. An image data processing circuit for correcting an image data representing a gray-scale level of an image to be displayed by a liquid crystal element, wherein a voltage applied to said liquid crystal element is determined based on said image data, said image data processing circuit comprising:  <u>a coding circuit</u> for outputting a coded-image data which is produced by coding said image data of a present frame;

a delay device connected to said encoder,

for delaying the encoded object frame data by one frame

and outputting an encoded previous frame data;

a first decoder connected to said encoder

and decoding the encoded object frame data;

a second decoder, the second decoder connected to said delay device

and decoding said encoded previous frame data;

a data correction device that receives said object encoded data from said first decoder and previous frame data from said second decoder,

and corrects object frame data included in an inputted image signal on the basis of said object frame data and previous frame data,

and outputs a correction image data derived from subtracting said object frame data from said previous frame data;

a first decoding circuit for decoding said coded-image data,

thereby producing a first decoded-image data corresponding to said present frame;

a delay circuit for delaying the coded-image data by one frame period;

a second decoding circuit for decoding

said coded-image data which is delayed by one frame period,

thereby producing a second decoded-image data corresponding to a previous frame;

a detecting circuit for detecting, a difference between said first decoded-image data and said second decoded-image data;



a previous frame image producer  
that receives said correction  
image data and said object frame  
data.

and adds the correction image  
data to said object frame data  
producing previous frame  
reproduction data;

and a frame data correction  
device that outputs corrected  
object frame data

based on object frame data,  
correction image data and frame  
reproduction data.

an image reproducing circuit for  
producing a previous-frame-image  
data

on the basis of the image data of  
said present frame and the  
difference between said first  
decoded-image data and said  
second decoded-image data;

and a data correcting circuit for  
correcting said image data of  
said present frame

in accordance with the difference  
of said gray-scale level between  
said present frame and said  
previous frame obtained from said  
previous-frame-image data and  
said image data of said present  
frame.

2. The correction data output  
device according to claim 1,  
wherein the data correction  
device comprises

bit number converting device  
means that reduces number of bits

of the object frame data or  
number of bits of the previous  
frame data.

3. An image data processing  
circuit according to claim 2,  
wherein said data correcting  
circuit further includes

a data converting circuit which  
reduces the bit number

of said previous-frame-image data  
and/or said image data of said  
present frame,

and said correcting circuit  
outputs said corrected image data  
according to the output of said  
data converting circuit.

<p>4. The correction data output device according to claim 1,</p> <p><u>wherein the data correction device has a data table composed of correction data,</u></p> <p>and said correction data are outputted from said data table</p> <p><u>on the basis of said object frame data and said previous frame data.</u></p>	<p>2. An image data processing circuit according to claim 1,</p> <p><u>wherein said data correcting circuit includes a look-up-table</u></p> <p>which outputs a corrected image data</p> <p><u>according to said previous-frame-image data and said image data of said present frame.</u></p>
<p>6. The correction data output device according to claim 1,</p> <p><u>wherein the data correction device corrects the correction data</u></p> <p>outputted from the correction data outputting means thereby increasing or decreasing said correction data.</p>	<p>4. An image data processing circuit according to claim 3,</p> <p><u>further comprising a circuit for limiting said corrected image data</u></p> <p>in accordance with a difference between said image data of said present frame and said previous-frame-image data.</p>

19. Claim 12 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 9 of **U.S. Patent No. 7,034,788**. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim similar subject matter. The following table compares the above-cited claims:

INSTANT APPLICATION	US PATENT 7,034,788 B2
12. A correction data correcting method comprising the steps of:  <u>encoding inputted object frame data;</u>	9. An image data processing method for correcting an image data representing a gray-scale level of an image to be displayed by a liquid crystal element, wherein a voltage applied to the liquid crystal element is determined based on the image data, the image data processing method comprising:  <u>outputting a coded-image data which is produced by coding said image data of a present frame;</u>
<u>delaying the encoded object frame data by one frame</u>  and outputting an encoded previous frame data;	<u>decoding said coded-image data,</u>  thereby producing a first decoded-image data corresponding to said present frame;
<u>decoding the encoded object frame data</u>  by a first decoder connected to said encoder; and	<u>delaying said coded-image data by one frame period;</u>
<u>decoding said encoded previous frame data</u>  by a second decoder, the second decoder connected to said delay device; and	<u>decoding said coded-image data delayed by one frame period,</u>  thereby producing a second decoded-image data corresponding to a previous frame;

outputting correction image data that corrects object frame data included in an inputted image signal on the basis of said object frame data and previous frame data

by a data correction device that receives said object encoded data from said first decoder and previous frame data from said second decoder,

and outputs a correction image data derived from subtracting said object frame data from said previous frame data;

detecting a difference between said first decoded image data and said second decoded-image data;

producing previous frame reproduction data by a previous frame image producer

that receives said correction image data and said object frame data and adds the correction image data to said object frame data; and

producing a previous-frame-image data

on the basis of said image data of said present frame and the difference between said first decoded image data and said second decoded-image data;

outputting corrected object frame data by a frame data correction device

based on object frame data, correction image data and frame reproduction data.

and correcting said image data of said present frame

in accordance with the difference of said gray-scale level between said present frame and said previous frame

obtained from said previous-frame-image data and said image data of said present frame.

It should be noted that the instant application's **object frame data** corresponds to **image data of a present frame** in patent 7,034,788. Similarly, **frame reproduction data** corresponds to a **previous frame image data**. A **correction image data** of the

instant application is difference between the **object frame data** and **frame reproduction data**.

***Claim Rejections - 35 USC § 112***

20. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

21. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "**the encoded object frame data**" in **lines 3 - 4**. There is insufficient antecedent basis for this limitation in the claim.

22. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "**the encoded object frame data**" in **line 4**. There is insufficient antecedent basis for this limitation in the claim.

23. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "**said encoder**" in **line 7**.

There is insufficient antecedent basis for this limitation in the claim.

24. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "**said delay device**" in **line 9**. There is insufficient antecedent basis for this limitation in the claim.

### ***Response to Arguments***

1. Applicant's arguments filed 11/16/2007 have been fully considered and have been found to be persuasive.

**ISHII [US Patent Application 2004/0012551 A1]** *does not specifically teach the following limitations from claim 1 (and similar limitations in corresponding claim 12):*

*a first decoder connected to said encoder and decoding the encoded object frame data;*

*a data correction device that receives [[said object encoded data]] a decoded object frame data from said first decoder and [[previous frame data]] a decoded previous frame data from said second decoder,*

and outputs a [[correction image data]] change quantity derived from subtracting  
[[said object frame data]] said decoded object frame data from [[said previous  
frame data]] said decoded previous frame data;

a previous frame image reproducer that receives [[said correction image data]]  
said change quantity and said inputted object frame data and adds [[the  
correction image data]] the change quantity to said inputted object frame data  
producing previous frame reproduction image data;

It is interesting to note that if the encoder compressed *inputted object frame data* in a lossless or reversible manner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to not include the above cited limitations of:

a first decoder,

outputting a change quantity derived from a difference between outputs of first and second decoders,

a previous frame image reproducer

since the *second decoder* would produce an “exact copy” of the previous frame image data.

However, prior art, including ISHII's, does not teach nor renders obvious the uniquely distinct features cited above.

### ***Conclusion***

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Cheng whose telephone number is 571-270-



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10/677,282  
Art Unit: 2625

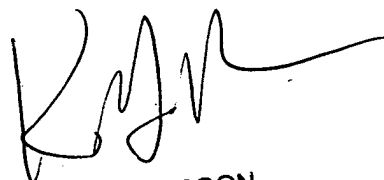
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3007. The examiner can normally be reached on MONDAY - FRIDAY, 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

plc  
February 17, 2008



KING Y. POON  
SUPERVISORY PATENT EXAMINER